Contents

Preface vii

Conference organization ix

Sponsors x

I. ATOMIC STRUCTURE

I.1. Metals

Vibrational analysis of Cs + CO coadsorbed on Ru(0001)
P. He, Y. Xu and K. Jacobi 1

Stability of small iridium clusters near the Ir(111) surface
M. Habar, S. Ouannasser, L. Stauffer, H. Dreyssé and L.T. Wille 5

STM, LEED and AES investigation of Mo enrichment on NiMo(110) single-crystal alloy surfaces
A. Gerlach, V. Maurice and P. Marcus 9

Concentration profiles of low-index surfaces of PtCo alloys: application of an improved thermodynamic theory
L.Z. Mezey and W. Hofer 15

A MEIS study of thermal effects on the Ni(111) surface
H.C. Lu, E.P. Gusev, E. Garfunkel and T. Gustafsson 21

Vibrational states on lithium and sodium surfaces
I.Yu. Sklyadneva, E.V. Chulkov and A.V. Bertsch 25

Bond length determination for transition atoms by shallow level EELFS
R.V. Vedrinskii, A.I. Taranukhina, L.A. Bugaev, V.L. Kraizman, A.V. Morozov, C. Wendland, D. Hasselkamp and A. Scharmann 32

Diffusion by atomic place exchange in ultrathin iron films on Ag(100): an ion scattering spectroscopy study
M. Canepa, E. Magnano, A. Campora, P. Cantini, M. Salvietti and L. Mattera 36

Structure and properties of Pd overlayers on Ru(100)
S. Poulston, M. Tikhov and R.M. Lambert 41

The structure of Co films on Cu(111) up to 15 ML
S. Müller, G. Kostka, T. Schäfer, J. de la Figuera, J.E. Prieto, C. Ocal, R. Miranda, K. Heinz and K. Müller 46

I.2. Non metals

Energy transfer during van der Waals cluster–surface collisions
M. Châtelet, M. Benslimane, A. De Martino, F. Pradère and H. Vach 50

Stoichiometry and surface reconstructions of (001) surfaces of silicon carbide
P. Käckel, J. Furthmüller and F. Bechstedt 55

Scanning tunneling microscopy study of the epitaxial growth of strained $In_{0.82}Ga_{0.18}As$ layers on InP
L. Porte, P. Krapf, Y. Robach, M. Phaner, M. Gendry and G. Hollinger 60

Hydrogen induced structure changes of GaAs(100)c(4 × 4), (2 × 4) and (4 × 2) surfaces
D. Pahlke, M. Arens, N. Esser, D.T. Wang and W. Richter 66

Surface quality and atomic structure of MBE-grown GaAs(100) prepared by the desorption of a protective arsenic layer
U. Resch-Esser, N. Esser, D.T. Wang, M. Kuball, J. Zegenhagen, B.O. Fimland and W. Richter 71

Surface relaxation of the $(10\bar{1}0)$ face of wurtzite CdS
T.T. Rantala, T.S. Rantala, V. Lantto and J. Vaara 77

Phonons at III–V (110) surfaces
W.G. Schmidt, F. Bechstedt and G.P. Srivastava 83

$CoSi_2$ on Si(100): LEED investigations of the $c(2 \times 2)$ and $(2\sqrt{2} \times 2\sqrt{2})$ phases and comparison to a bulk crystal $CoSi_2(100)$ surface
U. Starke, W. Weiss, G. Rangelov, Th. Fauster, G.R. Castro and K. Heinz 89

Low-energy photoelectron diffraction of Ga 3d core levels in GaP(110), GaAs(110) and GaSb(110)
A. Chassé, C. Nowak, L. Niebergall, P. Rennert, W. Braun, W. Richter and D.R.T. Zahn 94

Stoichiometry determination of the Te-rich (100) CdTe and (100) ZnTe surfaces
B. Daudin, D. Brun-Le Cunff and S. Tatarenko 99

STM/AFM investigations of β-$MoTe_2$, α-$MoTe_2$ and WTe_2
S.W. Hla, V. Marinković, A. Prodan and I. Muševič 105

The (1×2) reconstruction of the α-Fe_2O_3 $(\bar{1}012)$ surface
M. Gautier-Soyer, M. Pollak, M. Henriot and M.J. Guittet 112

Strain-induced formation and tuning of ordered nanostructures on crystal surfaces
V.A. Shchukin, N.N. Ledentsov, M. Grundmann, P.S. Kop'ev and D. Bimberg 117

II. ADSORPTION

II.1. Metals

Oxygen adsorbed on rare earth surfaces
M. Getzlaff, J. Paul, J. Bansmann, Ch. Ostertag, G.H. Fecher and G. Schönhense 123

High resolution XPS of bithiophene on clean and S modified Ni(110)
M.G. Ramsey, G. Koller, I. Kardinal and F.P. Netzer 128

Modification of the benzene–metal interaction by C and H monolayers at Pt(111) surfaces
C. Lutterloh, J. Biener, K. Pöhlmann, A. Schenk and J. Küppers 133

Decomposition of NH_3 on $Ru(11\bar{2}1)$
H. Dietrich, K. Jacobi and G. Ertl 138

A simulation study of the chemisorption dynamics of molecular hydrogen on the Ni(111) surface
A. Forni and G.F. Tantardini 142

Hydrogen molecule dissociation on Pt/Ni(111) systems
N.J. Castellani, P. Légaré, C. Demangeat and S. Pick 148

He-diffraction studies of hydrogen adsorption on Pd(311)
D. Farías, H. Tröger, M. Patting and K.H. Rieder 155

Adsorption and reactions of NO on NiAl(001) at 75 K
G. Schmitz, F. Bartolucci, P. Gassmann and R. Franchy 161

On the kinetics of oscillating reactions: H_2/O_2 and H_2/H_2O on platinum
B. Sieben, G. Bozdech, N. Ernst and J.H. Block 167

STM and SPA-LEED studies of O-induced structures on Rh(100) surfaces
J.R. Mercer, P. Finetti, F.M. Leibsle, R. McGrath, V.R. Dhanak, A. Baraldi, K.C. Prince and R. Rosei 173

Circular dichroism in photoemission from Xe and Kr on Pt(111)
Ch. Ostertag, A. Oelsner, M. Schicketanz, O. Schmidt, G.H. Fecher and G. Schönhense 179

Model calculations for dissociative sticking
G.P. Brivio, M.L. Rossi and T.B. Grimley 184

Quantum-state-resolved investigation of the UV photodesorption of NH_3
W. Nessler, K.-H. Bornscheuer, M. Binetti and E. Hasselbrink 189

Interactions of fast N_2 molecules with palladium surfaces
Th. Schlathölter, Th. Schlathölter, M. Vicanek and W. Heiland 195

The influence of surface reconstructions on the CO oxidation reaction rate for the O/Ag(110) surface
U. Burghaus and H. Conrad 201

Kinetics of S and Mo surface cosegregation in Fe–Mo alloys
A. Rolland, M.M. Montagono and J. Cabané 206

Adsorption properties and formation of Pt/Cu surface alloys
U. Schröder, R. Linke, J.-H. Boo and K. Wandelt 211

Interaction of chlorine with a $Co_{50}Ni_{50}(111)$ surface
J. Wu, S. Zhuang, M. Ji, M. Ma, W. Fang and K. Wandelt 218

Segregation of carbon in iron and molybdenum
W. Arabczyk and U. Narkiewicz 223

Adsorption of acrylic acid on aluminium at 300 K: a multi-spectroscopic study
F. Bournel, C. Laffon, Ph. Parent and G. Tourillon 228

Quantitative structure determination of an NH_x species adsorbed on Cu(110)
C.J. Hirschmugl, K.-M. Schindler, O. Schaff, V. Fernandez, A. Theobald, Ph. Hofmann, A.M. Bradshaw, R. Davis, N.A. Booth, D.P. Woodruff and V. Fritzsche 232

Orientation and periodicity in the $c(4 \times 8)$ and $p(2 \times 1)$ structures of 3-thiophene carboxylic acid on Cu(110)
B.G. Frederick, Q. Chen, S.M. Barlow, N.G. Condon, F.M. Leibsle and N.V. Richardson 238

Chemisorption of O_2 on Ag(110)
P.A. Gravil, J.A. White and D.M. Bird 248

Oxidation of CO by molecular oxygen adsorbed on Ag(110)
U. Burghaus and H. Conrad 253

Nucleation of chemical waves at structural defects: a mirror electron microscopy study of catalytic CO oxidation on Pt(110)
K.C. Rose, R. Imbihl, B. Rausenberger, C.S. Rastomjee, W. Engel and A.M. Bradshaw 258

Reaction kinetics of atomic hydrogen with deuterium on Ni(110)
G. Eilmsteiner, W. Walkner and A. Winkler 263

Interaction of CO with heteroepitaxial fcc- and bcc-Fe films on Cu(100)
J. Radnik, E. Chopovskaya, M. Grüne and K. Wandelt 268

Adsorption and structure of CF_4 on Cu(110)
V. Diercks, J. Goerge, P. Zeppenfeld, R. David and G. Comsa 274

Segregation and dissolution kinetics of Sb/Cu(111) at 673 K: experiment and simulation
H. Giordano and B. Aufray 280

Surface morphology of Au(111) after exposure to oxygen at high temperature and pressure
L. Huang, P. Zeppenfeld, J. Chevrier and G. Comsa 285

Reaction of NO and CO on Rh(100) surface studied with gas-phase oriented NO
M. Brandt, H. Müller, G. Zagatta, N. Böwering and U. Heinzmann 290

Adsorption of CO_2 on K-promoted Cu(111) surfaces
S. Hadenfeldt, C. Benndorf, A. Stricker and M. Töwe 295

Tight-binding model of CO adsorption at Pt/Ni(111) surface
Š. Pick 300

Size effect study of carbon monoxide oxidation by Rh surfaces
V. Nehasil, I. Stara and V. Matolín 305

II.2. Semiconductors

Bending and stretching vibrations of hydrogen and deuterium at GaAs(110) surfaces
S.P. Grabowski, H. Nienhaus and W. Mönch 310

Adsorption of O_2 on Si(111)7 × 7 compared at 300 and 30 K
G. Comtet, L. Hellner, G. Dujardin and M.J. Ramage 315

Oxidation of silver-passivated Si(111):Ag-($\sqrt{3} \times \sqrt{3}$)R30° surfaces
R.F. Schmitsdorf and W. Mönch 322

Negative ion formation from $SiCl_4$ adsorbed on Si(100)
Q. Guo, D. Sterratt and E.M. Williams 327

The As/Si(111) surface studied by angle scanned low energy photoelectron diffraction
R. Gunnella, E.L. Bullock, C.R. Natoli, R.I.G. Uhrberg and L.S.O. Johansson 332

Adsorbate-induced reconstruction on Si(001) probed by resonant optical second harmonic generation
J.R. Power, S. Chandola, J.D. O'Mahony, P. Weightman and J.F. McGilp 337

A LCAO-LDF study of Brønsted acids chemisorption on ZnO(0001)
M. Casarin, C. Maccato, G. Tabacchi and A. Vittadini 341

X-ray diffraction study of a semiconductor/electrolyte interface: n-GaAs(001)/H_2SO_4(:Cu)
J. Zegenhagen, A. Kazimirov, G. Scherb, D.M. Kolb, D.M. Smilgies and R. Feidenhans'l 346

Angle dependence of the spin–orbit branching ratio
E.L. Bullock, R. Gunnella, C.R. Natoli, H.W. Yeom, S. Kono, L. Patthey, R.I.G. Uhrberg and L.S.O. Johansson 352

Si overgrowth on Si(111)$\sqrt{3} \times \sqrt{3}$-B surface phase
A.V. Zotov, M.A. Kulakov, S.V. Ryzhkov, V.G. Lifshits, B. Bullemer and I. Eisele 358

Adsorption of elemental S on Si(100)-2 × 1 surfaces
A. Papageorgopoulos and M. Kamaratos 364

Temperature influence on the formation of silanized monolayers on silica: an atomic force microscopy study
J.V. Davidovits, V. Pho, P. Silberzan and M. Goldmann 369

An EELS study of the effect of 2 keV Ar^+ ion irradiation on thin C_{60} films
A. Hoffman, S. Prawer and P.J.K. Paterson 374

Atomic and electronic structures of Te adsorbed on GaAs(100) and InAs(100)
A.C. Ferraz and R. Claudino da Silva 379

Reactive and unreactive interfaces studied by means of metastable deexcitation spectroscopy
L. Pasquali, P. Fantini, S. Nannarone, M. Canepa and L. Mattera 383

Angle-resolved photoemission spectroscopy of the 1 × 1 ordered overlayers on iodine-saturated GaAs(001) and InAs(001)
P.R. Varekamp, M.C. Håkansson, J. Kanski, B.J. Kowalski, L.Ö. Olsson, L. Ilver, Z.Q. He, J.A. Yarmoff and U.O. Karlsson 387

Synchrotron radiation photoemission and photostimulated desorption of deuterated methanol on Si(111)7 × 7 and Si(100)2 × 1
M. Carbone, R. Zanoni, M.N. Piancastelli, G. Comtet, G. Dujardin and L. Hellner 391

Can hydrogen stabilize the α-SiC(0001)$\sqrt{3} \times \sqrt{3}$ surface?
P. Badziag 396

High resolution electron energy loss spectroscopy study of the Si(001) 3 × 1 hydrogenated surface
T. Angot, D. Bolmont and J.J. Koulmann 401

Study of Al_2O_3 condensation on Si(100) and InP(100) substrates
L. Bideux, C. Robert, B. Gruzza, V. Matolin and Z. Benamara 407

Bonding and structure of the Si(001)(2 × 1)–Sb surface
S.J. Jenkins and G.P. Srivastava 411

Theoretical studies of GaAs(001)–Ge(2 × 1) and (1 × 2) structures
G.P. Srivastava and S.J. Jenkins 416

The structure of sodium adsorbed c(2 × 8)-Ge(111) surface
S. Aminpirooz, M. Katsikini, H. Rossner and E. Holub-Krappe 420

Structure and phases of In on Ge(001)
L. Seehofer, G. Falkenberg and R.L. Johnson 425

Hut clusters on Ge(001) surfaces studied by STM and synchrotron X-ray diffraction
M. Nielsen, D.-M. Smilgies, R. Feidenhans'l, E. Landemark, G. Falkenberg, L. Lottermoser, L. Seehofer and R.L. Johnson 430

II.3. Others

Ballistic motion and abstraction in dimer dissociation at surfaces: Cl_2 on K
J. Strömquist, L. Hellberg, B. Kasemo and B.I. Lundqvist 435

Growth and electronic excitations of Cs/C_{60} layered structures on graphite
Z.Y. Li, M.R.C. Hunt and R.E. Palmer 442

PIRSS and LEED investigations of HN_3 adsorbed on NaCl(100)
J. Heidberg, M. Hustedt, J. Oppermann and P. Paszkiewicz 447

Photoemission study of Na and CS adsorption on MgO(100)1 × 1
T. Kendelewicz, P. Liu, G.E. Brown, Jr., E.J. Nelson and P. Pianetta 451

Cluster size dependent kinetics for the oxidation of CO on a Pd/MgO(100) model catalyst
C. Becker and C.R. Henry 457

A synchrotron radiation study of the interaction of Na with WSe_2 and $TaSe_2$: oxygen-induced deintercalation
S.D. Foulias, D.S. Vlachos, C.A. Papageorgopoulos, R. Yavor, C. Pettenkofer and W. Jaegermann 463

Thermodynamic and structural properties of physisorbed phases within the model mesoporous adsorbent M41S (pore diameter 2.5 nm)
P.L. Llewellyn, Y. Grillet, J. Rouquerol, C. Martin and J.-P. Coulomb 468

FTIR studies of the adsorption of CO on supported metallic clusters Pd/MgO(100)
C. Goyhenex, M. Croci, C. Claeys and C.R. Henry 475

The interconversion of SnO_2(110) reduced phases by reaction with formic acid
J.S.G. Irwin, A.F. Prime, P.J. Hardman, P.L. Wincott and G. Thornton 480

Modification of electric dipole domains on mica by excimer laser irradiation
R. Gerlach, G. Polanski and H.-G. Rubahn 485

Surface modifications of polycarbonate (PC) and polyethylene terephtalate (PET) by cold remote nitrogen plasma (CRNP)
C. Jama, O. Dessaux, P. Goudmand, B. Mutel, L. Gengembre, B. Drevillon, S. Vallon and J. Grimblot 490

Detection of cadmium oxides on a CdTe substrate by X-AES
C. Debiemme-Chouvy, F. Iranzo Marín, U. Roll, M. Bujor and A. Etcheberry 495

Characterization of cleaved MgO(100) surfaces
D. Abriou, F. Creuzet and J. Jupille 499

Clean and hydroxylated rutile TiO_2(110) surfaces studied by X-ray photoelectron spectroscopy
E.L. Bullock, L. Patthey and S.G. Steinemann 504

Manifestation of the paramagnetic splitting of physisorbed O_2 in core and valence spectroscopies
O. Karis, B. Hernnäs, C. Puglia, A. Nilsson, N. Mårtensson, D. Edvardsson and S. Lunell 511

Adsorption hysteresis and 2D phase nucleation of chloroform on graphite
A. Bah, N. Dupont-Pavlovsky and X. Duval 518

The interaction of β-$FeSi_2$ with atomic hydrogen, carbon monoxide and oxygen
P. Rygus, P.-R. Steiner and H. Froitzheim 523

A theoretical study of H_2S and MeSH adsorption on TiO_2
A. Fahmi, J. Ahdjoudj and C. Minot 529

Auger electron spectroscopic (AES) studies of the adsorption and reaction of $SnCl_4$ and H_2O at a silica surface
S.L. Patel and M.E. Pemble 534

III. DIFFUSION

III.1. in Metals

Subsurface islands and superstructures of Cu on Pb(111)
C. Nagl, E. Platzgummer, M. Schmid, P. Varga, S. Speller and W. Heiland 540

Temperature dependence of the surface diffusion coefficient of K atoms on Pd{111} measured with PEEM
M. Šnábl, M. Ondřejček, V. Cháb, W. Stenzel, H. Conrad and A.M. Bradshaw 546

Theoretical study of surface alloy formation through generation and annihilation of vacancies
G. Tréglia, B. Legrand, A. Saúl, T. Flores and M. Wuttig 552

Growth and structure of samarium overlayers on a cobalt (0001) single crystal
T. Gourieux, B. Kierren, F. Bertran, D. Malterre and G. Krill 557

Flux dependence of the surfactant effect in Ni/Ag(100): a theoretical study
J.M. Roussel, A. Saúl, G. Tréglia and B. Legrand 562

Growth and structure of Cr ultra-thin films deposited on Co(0001)
P. Ohresser, F. Scheurer, B. Carrière, J.P. Deville and A. Dobroiu 567

Investigation on the electronic structure of Fe deposited onto polycrystalline copper
S. Santucci, S. Di Nardo, L. Lozzi, M. Passacantando and P. Picozzi 572

Semi-empirical analysis of surface alloy formation
G. Bozzolo, J. Ferrante and R. Ibañez-Meier 577

Investigations on supported bimetallic PdPt nanostructures
J.L. Rousset, B.C. Khanra, A.M. Cadrot, F.J. Cadete Santos Aires, A.J. Renouprez and M. Pellarin 583

Competition or synergy between surface segregation and bulk ordering: the Cu–Pd system
C. Gallis, B. Legrand, A. Saúl, G. Tréglia, P. Hecquet and B. Salanon 588

Segregation-induced surface structures of carbon-doped $Mo_{0.75}Re_{0.25}(100)$
M. Kottcke, R. Döll, W. Weiß, F. Seiferlein, W. Arabczyk, L. Hammer and K. Heinz 592

Mobility of Ag adatoms on Ag(100)
M.H. Langelaar, M. Breeman and D.O. Boerma 597

III.2. in Semiconductors

Simulation of homoepitaxial growth on the diamond (100) surface using detailed reaction mechanisms
B. Ruf, F. Behrendt, O. Deutschmann and J. Warnatz 602

Surface diffusion of oxygen on a Ge{100}(2 × 1) surface studied by laser-induced thermal desorption (LITD)
D. Morkes, M. Ondřejček, I. Ulrych, Z. Chvoj, H. Conrad and V. Cháb 607

In situ characterization of SiO_2 etching with second harmonic generation and ellipsometry
A. Priem, C.W. van Hasselt, M.A.C. Devillers and Th. Rasing 612

Formation of epitaxial $CoSi_x$ silicide at the $Co/CoSi_2(111)$ interface studied by photoemission and band structure calculations
S. Hong, P. Sonnet, L. Stauffer, P. Wetzel, G. Gewinner, D. Bolmont and C. Pirri 617

Initial growth mode of Er silicide on Si(111) by solid phase epitaxy
T.P. Roge, F. Palmino, C. Savall, J.C. Labrune, S. Saintenoy, P. Wetzel, C. Pirri, D. Bolmont and G. Gewinner 622

Growth and characterization of the Re/Si(111) interface
A. Siokou, S. Kennou, S. Ladas, T.A. Nguyen Tan and J.-Y. Veuillen 628

Ge segregation tested b y X-ray photoelectron diffraction and surface atom titration during the first stage of Si heteroepitaxy on Ge(001)2 × 1
D. Aubel, L. Kubler, J.L. Bischoff and D. Bolmont 634

Origin of rippled structures formed during growth of Si on Si(001) with MBE
J. van Wingerden, E.C. van Halen, K. Werner, P.M.L.O. Scholte and F. Tuinstra 641

An intermediate (1.0–1.5 monolayers) stage of heteroepitaxial growth of InAs on GaAs(100) during submonolayer molecular beam epitaxy
G.M. Guryanov, G.E. Cirlin, A.O. Golubok, S.Ya. Tipissev, N.N. Ledentsov, V.A. Shchukin, M. Grundmann, D. Bimberg and Zh.I. Alferov 646

STM and RHEED study of InAs/GaAs quantum dots obtained by submonolayer epitaxial techniques
G.M. Guryanov, G.E. Cirlin, V.N. Petrov, N.K. Polyakov, A.O. Golubok, S.Ya. Tipissev, V.B. Gubanov, Yu.B. Samsonenko, N.N. Ledentsov, V.A. Shchukin, M. Grundmann, D. Bimberg and Zh.I. Alferov 651

IV. ELECTRONIC STRUCTURE

IV.1. Metals

Oscillatory photoemission cross section for alkali monolayer quantum well states
A. Carlsson, D. Claesson, G. Katrich, S.-Å. Lindgren and L. Walldén 656

Cu(111) electron band structure and channeling by VLEED
I. Bartoš, M.A. Van Hove and M.S. Altman 660

Relativistic calculations of photoemission spectra from ordered alloys: application to $Cu_3Au(001)$
B. Willerding, J. Braun and K. Wandelt 665

Giant temperature effects in normal-emission photoelectron spectra from Ag(111) and Au(111)
R. Matzdorf, R. Paniago, G. Meister, A. Goldmann, Ch. Zubrägel, J. Braun and G. Borstel 670

Electronic structure of Pd clusters in the tight-binding approximation: influence of spd-hybridization
C. Mottet, G. Tréglia and B. Legrand 675

Band effects in the filled outer-shell core levels of tantalum
I.R. Collins 680

Second harmonic generation from the Cu(001) surface
R. Vollmer, M. Straub and J. Kirschner 684

Relaxation and electronic surface states of rhodium surfaces
A. Eichler, J. Hafner, G. Kresse and J. Furthmüller 689

Inverse photoemission spectra of V(100) surface
T.E. Ollonqvist, I.J. Väyrynen, O.G. Dmitrieva and O.M. Artamonov 693

Theory of scanning tunneling spectroscopy on Pd(111)
D. Drakova and G. Doyen 698

Theory of STM and STS on p(2 × 2)Na/Al(111)
D. Drakova, G. Doyen and F. Máca 704

The possible mechanism of incommensurate charge-density-wave occurrence on the (100)W surface
S.V. Man'kovsky and V.T. Cherepin 711

Synchrotron radiation study of mesoscopic manganese particles
A.M. Keen, C. Binns, S.H. Baker, S. Mozley, C. Norris and S.C. Thornton 715

IV.2. Non metals

Particle-induced Auger emission from Si monolayers
R. Verucchi, S. Baraldi and S. Valeri 719

Bias-dependence of the appearance of scanning tunnelling microscope images of the GaAs(001)-(2 × 4) surface reconstruction
M.D. Jackson, J.M.C. Thornton, D.A. Woolf and P. Weightman 724

LMTO calculations of surface energy and work function for GaAs
L. Adamowicz and M. Zbroszczyk 730

In situ XPS investigation of indium surface segregation for $Ga_{1-x}In_xAs$ and $Al_{1-x}In_xAs$ alloys grown by MBE on InP(001)
G. Grenet, E. Bergignat, M. Gendry, M. Lapeyrade and G. Hollinger 734

HREELS analysis of band bending on sulfur-covered GaAs(100) surfaces
M. Arens, J. Kinsky, W. Richter and K. Eberl 740

(2 × 1) reconstruction and hydrogen-induced de-reconstruction of the diamond (100) and (111) surfaces
G. Kern, J. Hafner, J. Furthmüller and G. Kresse 745

Angular resolved XPS applied to V_2O_5-based catalysts
K. Devriendt, H. Poelman, L. Fiermans, G. Creten and G.F. Froment 750

Influence of surface relaxation on the electronic states of the α-Al_2O_3(0001) surface: a self-consistent tight-binding approach
M. Gautier-Soyer, F. Jollet and C. Noguera 755

Full-potential photoemission calculations for $KTaO_3$
M. Grass, J. Braun, A. Postnikov, G. Borstel, H. Ünlü and M. Neumann 760

Some effects of mobile donors on electron trapping at semiconductor surfaces
T.S. Rantala and V. Lantto 765

A reflectance anisotropy spectroscopy study of GaSb(100)c(2 × 6) surfaces prepared by Sb decapping
C. Goletti, U. Resch-Esser, J. Foeller, N. Esser, W. Richter, B. Brar and H. Kroemer 771

Density functional and quasi-particle calculations on the InP(110) surface
S.J. Jenkins, G.P. Srivastava and J.C. Inkson 776

XPS and LEISS studies of ion bombarded GaSb, InSb and CdSe surfaces
W. Yu, J.L. Sullivan and S.O. Saied 781

Angle-resolved photoemission of Y-doped $Bi_2Sr_2CaCu_2O_{8+\delta}$
W.R. Flavell, A.G. Thomas, S. Squire, M. Mian, Md.M. Sarker, J.F. Howlett, Z. Hashim, H.R. Aghabozorg, P.L. Wincott, S. Downes and L. Leonyuk 788

V. INTERFACES

P_{b1} defect study and chemical characterization of the Si(001)–SiO_2 interface in oxidized porous silicon
J.L. Cantin, M. Schoisswohl, H.J. von Bardeleben, F. Rochet and G. Dufour 793

Silicon homoepitaxy on high index surfaces and the effect of antimony on this growth
M. Ladeveze, I. Berbezier and F.A. D'Avitaya 797

Characterisation of buried lateral period superlattices by ballistic electron emission microscopy
D.I. Westwood, M.-L. Ke, F. Lelarge, F. Laruelle and B. Etienne 802

Time-resolved optical second harmonic generation study of the electric field dynamics at a metal–semiconductor interface
W. de Jong, A.F. van Etteger, C.A. van 't Hof, P.J. van Hall and Th. Rasing 807

An investigation by spot profile analysis low energy electron diffraction of Si grown on GaAs(001)
A.H. Levermann, D.A. Woolf, D.I. Westwood and J.E. Macdonald 812

Photoemission studies of the cerium electronic properties at the Ce/Fe(100) interface
B. Kierren, F. Bertran, N. Witkowski, T. Gourieux, D. Malterre, M. Finazzi, K. Hricovini and G. Krill 817

Initial stages of growth of Mn on Ag(100) studied by X-ray photoelectron diffraction and valence band photoemission
P. Schieffer, C. Krembel, M.C. Hanf, D. Bolmont and G. Gewinner 823

Chemical structure of the Pt/Co(0001) interface
H. Bulou, A. Barbier, R. Belkhou, C. Guillot, B. Carrière and J.P. Deville 828

Interface properties of MBE grown InSe/Si(111) heterojunctions
S. El Monkad, M. Eddrief, J.P. Lacharme, K. Amimer and C.A. Sébenne 833

AES and EPMA studies of aluminum and aluminum–gold carbon composite interfaces
J.F. Silvain, Y. Le Petitcorps, M. Lahaye and M. Turner 839

Antimony on metal and semiconductor surfaces: interface formation and passivation
Y. Huttel, P. Soukiassian, P.S. Mangat and Z. Hurych 845

Improvements to the Schottky barrier heights of intimate metal–InGaAs contacts by low temperature metallisation
S.A. Clark, S.P. Wilks, A. Kestle, D.I. Westwood and M. Elliott 850

Electronic and surfactant effects of As interlayers at Ag/InP(110) interfaces
S. Schömann, K. Schmidt, H. Peisert, T. Chassé and K. Horn 855

Ballistic electron emission microscopy of InAs grown on GaAs(100)
M. Ke, D.I. Westwood, C.C. Matthai and R.H. Williams 861

Theoretical analysis of the strain relaxation in quantum wells grown on semiconductor superlattices
C. Priester, S.J. Sferco and E.A. Albanesi 865

Growth mechanism and epitaxy of cobalt on the Pt(110) surface
H. Giordano, M. Galeotti, B. Cortigiani, M. Torrini and U. Bardi 870

X-ray characterization of a $SrTiO_3$ bicrystal interface
A. Kazimirov, J. Zegenhagen, I. Denk, J. Maier, D.-M. Smilgies and R. Feidenhans'l 875

Dynamics of the perovskite interphase boundary under pressure
D. Fuks, S. Dorfman, J. Felsteiner, A. Gordon, A.V. Postnikov and G. Borstel 879

Adhesion of small particles of gold on γAl_2O_3
C. Chefi, M. Mbarki, F. Hila and M. Gillet 883

Characterization of acid–base properties of polypropylene modified surfaces by means of XPS and CIA
N. Shahidzadeh, F. Arefi-Khonsari, M.M. Chehimi and J. Amouroux 888

Ageing of an organosiloxane deposit in a cold remote nitrogen plasma: XPS investigation
C. Jama, O. Dessaux, P. Goudmand, L. Gengembre and J. Grimblot 893

VI. MAGNETISM

Magnetic circular and linear dichroism in VUV-photoemission from thin iron films on W(110)
J. Bansmann, M. Getzlaff, Ch. Ostertag and G. Schönhense 898

Magnetic properties of Co islands grown on Cu(111)
J. Izquierdo, A. Vega and L.C. Balbás 902

Relaxation of magnetic transition-metal surfaces
B. M'Passi-Mabiala, G. Moraitis, C. Demangeat and A. Mokrani 907

Configuration effects of the existence conditions for interface bilayer spin waves
H. Puszkarski, R. Jozefowicz, B. Kołodziejczak, A. Akjouj, B. Djafari-Rouhani and L. Dobrzynski 914

Electronic structure and magnetic ordering on the (001) surfaces of FeAl, CoAl and NiAl alloys with bulk B2-structure
A.A. Ostroukhov, V.M. Floka and V.T. Cherepin 919

Structure of epitaxial ferromagnetic layers by multishell analysis of polarization dependent XAFS data
P. Le Fevre, H. Magnan and D. Chandesris 923

Giant nonlinear magneto-optical Kerr effect from Fe interfaces
M. Groot Koerkamp and Th. Rasing 933

Nonlinear magneto-optical Kerr measurements on Fe(110)
R. Vollmer, M. Straub and J. Kirschner 937

Iron multilayers on Cu(100) – a case of complex reconstruction investigated by quantitative LEED
K. Heinz, S. Müller and P. Bayer 942

Qualitative trends in magnetism of 4d transition metal clusters
B. Piveteau, M.C. Desjonquères, A.M. Oleś and D. Spanjaard 951

VII. PHASE TRANSITIONS, MELTING AND DYNAMICAL PROPERTIES

STM-imaging of nanostructure dynamics on Ag(111)-experimental challenges and solutions
K. Morgenstern, G. Rosenfeld, B. Poelsema and G. Comsa 956

Surface phase transitions in two-component systems
G. Mazzeo, E. Carlon and H. van Beijeren 960

Anharmonic effects at the onset of the Ag(110) roughening transition
G. Bracco, L. Bruschi, L. Pedemonte and R. Tatarek 964

Equilibrium morphology of the Ag(110) surface
G. Bracco, L. Pedemonte and R. Tatarek 968

Effect of the [001] surface of Cu_3Au on the order–disorder transition
H.M. Polatoglou and P. Cafarelli 972

Direct observation of the rippling and the order–disorder transition at the $Cu_3Au(100)$ surface by TOF-ion scattering
L. Houssiau and P. Bertrand 978

Connection between thermodynamic properties and diffusion coefficient for a system of non-interacting particles on a lattice with two non-equivalent sites
Z. Chvoj, H. Conrad and V. Cháb 983

Influence of carbon monoxide gas on silicon dioxide dry etching
N. Omori, H. Matsuo, S. Watanabe and M. Puschmann 988

Electron stimulated reduction of sapphire studied by electron energy loss and Auger spectroscopies
A. Hoffman and P.J.K. Paterson 993

VIII. NEW TECHNIQUES & MISCELLANEOUS

$M_{2,3}$ magnetic circular dichroism (MCD) measurements of Fe, Co and Ni using a newly developed quadruple reflection phase shifter
H. Höchst, D. Zhao and D.L. Huber 998

Imaging surface reactions with light
G. Haas, R.U. Franz, H.H. Rotermund, R.M. Tromp and G. Ertl 1003

Effects of heterogeneity on the surface diffusion of interacting lattice gases: the bivariate trap model
E.C. Viljoen and C. Uebing 1007

Growth and intercalation of silver deposited onto $Nb_{1+x}S_2$
M. Remskar, V. Marinkovic and A. Prodan 1012

The initial stages of the growth of copper on a (1×1) and a $\sqrt{31} \times \sqrt{31} R \pm 9°$ α-$Al_2O_3(0001)$ surface
S. Gota, M. Gautier-Soyer, L. Douillard, J.P. Duraud and P. Le Fevre 1016

Simulation of photoemission current to monitor the thin film growth
N. Fazouan, M. Djafari Rouhani, A.M. Gue and D. Esteve 1022

XPS, LEED and AFM investigation of the Si(100) surface after the deposition and annealing of tellurium thin films
S. Santucci, S. Di Nardo, L. Lozzi, M. Passacantando and P. Picozzi 1027

Probing the silicon–silicon oxide interface of Si(111)–SiO_2–Cr MOS structures by DC-electric-field-induced second harmonic generation
O.A. Aktsipetrov, A.A. Fedyanin, E.D. Mishina, A.N. Rubtsov, C.W. van Hasselt, M.A.C. Devillers and Th. Rasing 1033

Acoustic scattering by a wire deposited on a planar surface
A. Khelif, B. Djafari Rouhani and L. Dobrzynski 1038

A high precision ATR study of surface plasmon mediated reflectance in noble metal films
A. Hoffmann, N. Kroó, Z. Lenkefi and Z. Szentirmay 1043

Author index 1047

Subject index 1059

Materials index 1078